

Water-Data Report 2008

**361646081430402 Local number WT-099, NCDENR Tater Hill Research Station ASU-2D near Boone, NC
(Bedrock)**

Piedmont and Blue Ridge crystalline-rock aquifers
Mafic Gneiss

Watauga County, NC

LOCATION.--Lat 36°16'45.9", long 81°43'03.7" referenced to North American Datum of 1983, Watauga County, NC, Hydrologic Unit 05050001, 1.75 mi east of U.S. Highway 421 and 4.7 mi north of Boone. Owner: Appalachian State University and NCDENR (North Carolina Department of Environment and Natural Resources), Division of Water Quality.

GROUND-WATER RECORDS

WELL CHARACTERISTICS.--Drilled observation well, depth 350 ft, diameter 6 in., cased to 27 ft, open hole from 27 ft to 350 ft.

DATUM.--Land-surface datum is 4,060 ft above North American Vertical Datum of 1988. Measuring point: top of protective steel casing, 2.99 ft above land-surface datum.

PERIOD OF RECORD.--June 2007 to current year.

GAGE.--Measured periodically with electric and steel tape (by USGS and NCDENR, Division of Water Quality).

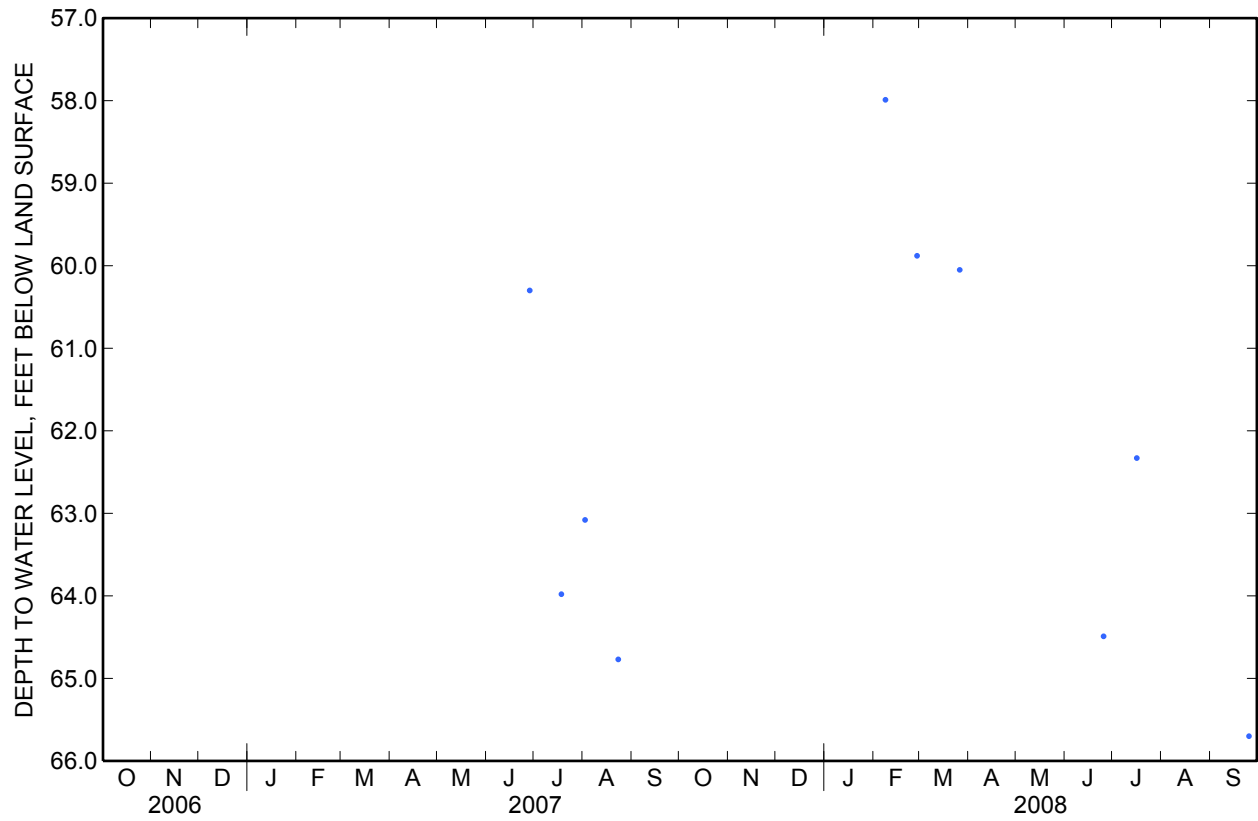
REMARKS.--Well is part of Piedmont/Mountains ground-water project.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 57.99 ft below land-surface datum, February 8, 2008; lowest water level measured, 65.70 ft below land-surface datum, September 25, 2008.

WATER LEVELS IN FEET BELOW LAND-SURFACE DATUM

Date	Water level	Date	Water level
Feb 8, 2008	57.99	Jun 25, 2008	64.49
28	59.88	Jul 16	62.33
Mar 26	60.05	Sep 25	65.70
Highest: 57.99 Feb 08, 2008			
Lowest: 65.70 Sep 25, 2008			

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WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 2007.

REMARKS.--Well is part of Piedmont/Mountains ground-water project.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Part 1 of 4

[QC, quality control sample. Remark codes: <, less than; E, estimated.]

Date	Time	Sample medium and type	Depth of well, feet below LSD (72008)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd, μ S/cm 25 degC (00095)	Temperature, water, deg C (00010)
Oct									
02...	1610	Ground water, regular	350.00	669	9.1	96	6.8	65	12.1
02...	1615	QC - Ground water, replicate	350.00	--	--	--	--	--	--

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Part 2 of 4

[QC, quality control sample. Remark codes: <, less than; E, estimated.]

Date	Hardness, water, mg/L as CaCO3 (00900)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unfltrd, titr., field, mg/L as CaCO3 (00419)	Bicarbonate, wat unfltrd, titr., field, mg/L (00450)	Bromide, water, fltrd, mg/L (71870)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L as SiO2 (00955)	Sulfate, water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)
Oct													
02...	31	10.0	1.49	1.27	1.41	33	40	E.01	.64	<.12	10.3	4.02	51
02...	31	10.0	1.50	1.32	1.46	--	--	E.01	.66	<.12	10.4	4.17	52

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Part 3 of 4

[QC, quality control sample. Remark codes: <, less than; E, estimated.]

Date	Ammonia, water, fltrd, mg/L as N (00608)	Nitrate + nitrite, water, fltrd, mg/L as N (00631)	Nitrite, water, fltrd, mg/L as N (00613)	Total nitrogen, wat flt by analysis, mg/L (62854)	Orthophosphate, water, fltrd, mg/L as P (00671)	Aluminum, water, fltrd, μ g/L (01106)	Antimony, water, fltrd, μ g/L (01095)	Arsenic, water, fltrd, μ g/L (01000)	Barium, water, fltrd, μ g/L (01005)	Beryllium, water, fltrd, μ g/L (01010)	Boron, water, fltrd, μ g/L (01020)	Cadmium, water, fltrd, μ g/L (01025)	Chromium, water, fltrd, μ g/L (01030)
Oct													
02...	<.020	.06	<.002	E.06	E.004	2.2	<.14	<.06	5	<.01	4.0	<.04	.27
02...	<.020	.05	<.002	E.04	E.004	2.4	<.14	<.06	5	<.01	4.3	<.04	.34

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Part 4 of 4

[QC, quality control sample. Remark codes: <, less than; E, estimated.]

Date	Cobalt water, fltrd, µg/L (01035)	Copper, water, fltrd, µg/L (01040)	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Mangan- ese, water, fltrd, µg/L (01056)	Molyb- denum, water, fltrd, µg/L (01060)	Nickel, water, fltrd, µg/L (01065)	Selen- ium, water, fltrd, µg/L (01145)	Silver, water, fltrd, µg/L (01075)	Zinc, water, fltrd, µg/L (01090)	Uranium natural water, fltrd, µg/L (22703)	Data base number	Medium code
Oct													
02...	.58	2.3	E7	<.08	31.4	.6	1.3	.11	<.1	8.1	.07	01	WG
02...	.58	2.2	<8	<.08	30.9	.8	1.6	.11	<.1	7.5	.09	04	WGO